IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Device ID indication | | | | |
| Date: 2022-07-12 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Jouni Malinen | Qualcomm |  |  | jouni@qca.qualcomm.com |
|  |  |  |  |  |

Abstract

This document proposes changes to address the following comments on the P802.11bh/D0.2 comment collection: CID 50 (the part about the identifier vs. a new identifier), CID 51, and CID 52.

## Comments

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 50 | If inclusion of the identifier in an Association Request frame is restricted to FILS authentication then we need a shall statement to that effect.  The "opt-in to using it" language is unnecessary -- this is adequately covered by the verb "may".  It is not clear what distinguishes a "new identifier" from an "identifier". We need to be specific. | 26 | 12.2.11 | 19 | Replace 1st sentence of paragraph with "A non-AP STA may include the identifier in an Association Request frame if FILS authentication is used and shall not include the identifier an Association Request frame if FILS authentication is not used. An AP may include an identifier that has not previously been used in an Association Response frame if FILS authentication is used and shall not include include an identifier in an Association Response frame if FILS authentication is not used." |
| 51 | If inclusion of the identifier is restricted to the EAPOL Key messages for FT, then we need a shall statement to that effect.  The "/4" (in "message 2/4", etc.) is confusing since it is not part of the actual message name. Use the actual frame name. | 26 | 12.2.11 | 22 | For FT association the following applies: - A non-AP STA may include the identifier in EAPOL-Key Message 2 frame of the initial mobility domain association - An AP may include an identifier that has not previously been used in the EAPOL-Key Message 3 frame - An identifier shall not be included in EPOL Key messages exchanged during FT protocol reassociations. |
| 52 | "For other cases" might not be clear enough; better to enumerate.  The "/4" (in "message 2/4", etc.) is confusing since it is not part of the actual message name. Use the actual frame name. | 26 | 12.2.11 | 25 | Change to "If neither FILS authentication nor FT association are used, then the following apply: - The non-AP STA may include an identifier in the EPOL Key Message 2 frame of the initial 4-way handshake. - An AP may include an identifier that has not previously been used in the EPOL Key Message 3 frame of the initial 4-way handshake. " |

## Proposed resolutions

CID 50: This comment will be addressed as a part of “opt-in” rewording (i.e., other contributions). Proposed resolutions for CID 51 and 52 address the “new identifier” vs. “an identifier” part.

CID 51: REVISED. EAPOL-Key messages (4-way handshake) is not used when using FT protocol. The baseline standard refers to the 4-way handshake messages with names “4-way handshake message 1”, “4-way handshake message 2”, “4-way handshake message 3”, and “4-way handshake message 4”. Change the draft as shown <in this document> under the “Proposed changes to P802.11bh/D0.2” heading. Note that the “opt-in” vs. “may include” part of the changes proposed in the comment are covered by other comments.

CID 52: REVISED. “For other cases” can be made specific by using the proposed neither/nor construction with the same conditions as used in the earlier sentences in the paragraph. The baseline standard refers to the 4-way handshake messages with names “4-way handshake message 1”, “4-way handshake message 2”, “4-way handshake message 3”, and “4-way handshake message 4”. Change the draft as shown <in this document> under the “Proposed changes to P802.11bh/D0.2” heading. Note that the “opt-in” vs. “may include” part of the changes proposed in the comment are covered by other comments.

## Proposed changes to P802.11bh/D0.2

**12.2.11 Device ID indication**

*Modify 12.2.11 as shown:*

An AP may provide an identifier to a non-AP STA and the non-AP STA may opt-in to providing that identifier to any AP in the same ESS to allow the network to recognize the same non-AP STA when it returns to the ESS even if it changes its MAC address. Exchanges of this identifier information are protected from third parties to limit the tracking capability to the APs in an ESS.

A non-AP STA indicates support for this capability in the Device ID Support subfield in the Extended RSN Capabilities field (see 9.4.2.241 (RSN Extension Element)). An AP shall not send an identifier to a non-AP STA that does not indicate support for this capability.

When using FILS authentication, the non-AP STA sends the identifier, if it has one and opts-in to using it, in the Association Request frame and the AP sends a new identifier in the Association Response frame. When using FT, the non-AP STA sends the identifier, if it has one and opts-in to using it, during the initial mobility domain association the 4-way handshake message 2 and the AP sends a new identifier in the 4-way handshake message 3; the non-AP STA does not send an identifier and the AP does not send a new identifier during the FT protocol reassociations within the same ESS. If neither FILS authentication nor FT association are used, the non-AP STA sends the identifier, if it has one and opts-in to using it, during the initial 4-way handshake in the 4-way handshake message 2 and the AP sends a new identifier in the 4-way handshake message 3. When the non-AP STA sends the opaque identifier, it shall send the most recently received value from an AP in the ESS without modification.